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Resupinatus Notebook 1

L. R. Hesler

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Key to Species of
RESUPINATUS
of Southeastern United States

L. R. Hesler

March, 1958

RESUPINATUS

(Numbers on the left correspond to the numbers in the key.)

<u>Species</u>	<u>Synonyms</u>
2 alachuanus (Murr.) comb. nov.	2 Geopetalum alachuanum Murr.
14 angustatus (Berk.) comb. nov.	14 Panus angustatus Berk. 14 Pleurotus stratosus Atk.
12 applicatus (Fr.) S. F. Gray	12 Pleurotus applicatus (Batsch) Gill. 12 Resupinatus atropellitis (Pk.) Murr.
6 approximans (Pk.) Murr.	6 Pleurotus approximans Pk.
3 atrocaeruleus var. griseus (Pk.) comb. nov.	3 Pleurotus atrocaeruleus var. griseus Pk.
11 carolinus (Coker) comb. nov.	11 Pleurotus carolinus Coker
5 crustosus (Coker) comb. nov.	5 Pleurotus crustosus Coker
1 elegans (Coker) comb. nov.	1 Pleurotus elegans Coker
16 mastrucatus (Fr.) comb. nov.	16 Agaricus (Pleurotus) mastrucatus Fr.
4 niger (Schw.) Murr.	4 Pleurotus niger Schw.
17 petaloides (Fr.) comb. nov.	17 Pleurotus petaloides (Fr.) (Pleurotus spathulatus (Fr.) Pk.?)
9 rhacodium (B. & C.) Singer	9 Pleurotus rhacodium B. & C.
13 serotinus (Fr.) comb. nov.	13 Pleurotus serotinus (Fr.) Kummer
7 silvanus (Sacc.) Singer	7 Pleurotus silvanus Sacc.
17 spathulatus (Fr.) comb. nov.	17 Pleurotus spathulatus Fr. (Pleurotus petaloides?)
10 striatulus (Fr.) Murr.	10 Pleurotus striatulus (Fr.) Kummer
15 suballiaceus (Murr.) comb. nov.	15 Geopetalum suballiaceus Murr.
8 unguicularis (Fr.) Singer	8 Pleurotus unguicularis Fr.

RESUPINATUS

Key to Species

1. Pileus small, 15 mm. or less in diameter; pleurocystidia present or absent..... 2
1. Pileus larger, 1.5-9 cm. broad; pleurocystidia present.... 13
 2. Pleurocystidia (metuloids) present..... 3
 2. Pleurocystidia absent..... 8
3. Spores 4.5-6 μ broad, subglobose to ovoid; pileus blackish; lamellae distant, white.....
 - 1. elegans (Coker) comb. nov.
3. Spores 2.5-4.5 μ broad, ellipsoid to ovoid..... 4
 4. Spores 5-6 μ long; pileus dark-avellaneous with an isabelline tint (pinkish wood-brown).....
 - 2. alachuanus (Murr.) comb. nov.
 4. Spores 6-9.5 μ long..... 5
5. Pileus olive, base bluish.....
- 3. atrocaeruleus var. griseus (Pk.) comb. nov.
5. Pileus with different colors..... 6
 6. Pileus black; lamellae blackish-brown; pilocystidia irregular, more or less buried..... 4. niger (Schw.) Murr.
 6. Not as above..... 7
7. Pileus blackish-brown when wet, grayish or brown when dry, margin sulcate; lamellae dark russet-brown; metuloids tuberculate..... 5. crustus (Coker) comb. nov.
7. Pileus pale to dark smoky brown, becoming straw color, margin striatulate; lamellae at first snow white, becoming creamy in age; metuloids apices crystallate.....
 - 6. approximans (Pk.) Murr.
8. Spores ellipsoid (index, length-diameter 2:1)..... 9
8. Spores globose, subglobose, or short-ellipsoid..... 10
9. Spores 5-6 (7) μ long; pileus blackish, rugose-wrinkled, margin striatulate..... 7. silvanus (Sacc.) Singer
9. Spores 6-9 μ long; pileus blackish-brown when wet, margin sulcate when wet..... 8. ungicularis (Fr.) Singer
10. Spores globose, 3.5-4.5 μ ; pileus drab-brown with a well-defined disk of dark-brown to black strigose hairs..... 9. rhacodium (B. & C.) Singer
10. Spores globose, subglobose, to short-ellipsoid; pileus not as above..... 11

11. Pileus glabrous, brownish, 1-2.5 mm. broad, margin
sulcate-striate; lamellae distant..... 10. striatulus (Fr.) Murr.
..... 12
11. Pileus villose or tomentose..... 12
12. Pileus tomentum very short, granular-like, white
when dry, margin even; lamellae broad.....
..... 11. carolinus (Coker) comb. nov.
12. Pileus tomentum long, whitish or brown, margin
striatulate; lamellae narrow.....
..... 12. applicatus (Fr.) S. F. Gray
13. Spores 3.5-5.5 μ long..... 14
13. Spores 6-9 μ long..... 15
14. Pileus deep greenish-olive, margin even; odor and
taste mild; spores oblong-curved, 4-5 x 1-2 μ
..... 13. serotinus (Fr.) comb. nov.
14. Pileus buff to grayish-brown, shining, margin
striatulate; odor and taste farinaceous; spores
short-ellipsoid to subglobose, 3.5-5.5 x 3-4 μ
..... 14. angustatus (Berk.) comb. nov.
15. Pileus whitish, ^{or pale grayish, 1} 2-2.5 cm. broad; odor and taste mild;
~~lamellae distant..... 15. suballiacens (Murr.) comb. nov.~~
15. Pileus grayish to brownish, or if whitish usually
broader than above; taste farinaceous..... 16
16. Pileus mouse-gray when dry, smoky-drab when wet,
pubescent-tomentose; spores 5-6 (7) μ broad.....
..... 16. mastrucatus (Fr.) comb. nov.
16. Pileus whitish, grayish-brown, or buckthorn brown,
with a white, granular bloom, glabrescent; spores
3-5 μ broad..... 17. petaloides (Fr.) comb. nov.
(also spathulatus (Fr.) comb. nov.)

15a. Lamellae distant - - - - - suballiacens (Murr.)

15b. Lamellae close - - - - - No 128/29



Cenipinatus: Section showing layers in
the pileus-flesh, and lamellae
with metuloids. (Species?)

RESUPINATUS ALACHUANUS (Murr.) comb. nov.

Geopetalum alachuanum Murr., Florida Acad. Sci. Proc. 7:109. 1945
Hohenbuehelia alachuana (Murr.) Singer.

"Pileus subcircular, slightly depressed, solitary, 1.5 cm. broad; surface smooth, glabrous, shining, uniformly dark-avellaneous with an isabelline tint, margin deflexed, even, entire; context thin, white, odorless; lamellae decurrent, inserted, very narrow, crowded, white, unchanging, denticulate; spores ellipsoid, smooth, hyaline, about $6 \times 4 \mu$; cystidia abundant, tapering from a broad base to a sharp point, smooth, hyaline, projecting about $35 \times 15 \mu$; stipe lateral, very short, white, pruinose.

Habitat and Distribution. - On deciduous wood, Florida, January.

Notes on Type

Spores $5-6 \times 3.5-4 \mu$, ellipsoid, smooth, yellowish-brown in Melzer's reagent. Pleurocystidia and cheilocystidia (metuloids) fusoid, numerous, conspicuous, thick-walled, a few apices faintly crystallate, some with an apparent calyptra, $48-70 \times 8-18 \mu$. Gill-trama slightly interwoven. Pileus flesh of 4 layers: (1) epicutis narrow, brownish, bearing a few hyphoid hairs; (2) a broad band of more or less perpendicular, colorless, gelatinous hyphae; (3) a narrow, dense band; (4) a broad, brown region.

RESUPINATUS ANGUSTATUS (Berk.) comb. nov.

Panus angustatus Berk. Jour. Bot. & Kew Misc. 6:318. 1847

Pleurotus stratosus Atk. Jour. Myc. 8:116. 1902

Pileus 1.5-4 cm. broad, cuneate, flabelliform, central portion buff to gray-brown, margin whitish, base white-tomentose, elsewhere glabrous or nearly so, shining, viscid when wet, margin striatulate. Flesh thin, rather firm, white; odor and taste farinaceous. Lamellae decurrent, radiating from lateral base, close, few forking behind, narrow, white becoming pale buff, edges fimbriate. Stipe none; attached by a lateral tubercle.

Spores 4-5.5 x 3-4 μ , short ellipsoid to subglobose, white in mass, yellowish-brown in Melzer's reagent.

Pleurocystidia (metuloids) fusoid-lanceolate, apex more or less crystallate, at times calyptrate, 56-105 x 8-23 μ ; cheilocystidia similar, smaller. Gill-trama interwoven; subhymenium none or slight. Pileus flesh of layers:

(1) an outer, brownish, dense zone, 20-25 μ thick with surface filaments; (2) a clear, gelatinous layer, 175-250 μ thick; (3) a dense, brownish layer, 150 μ thick; (4) a loosely interwoven zone, 450 μ thick, (5) a dense, dark zone.

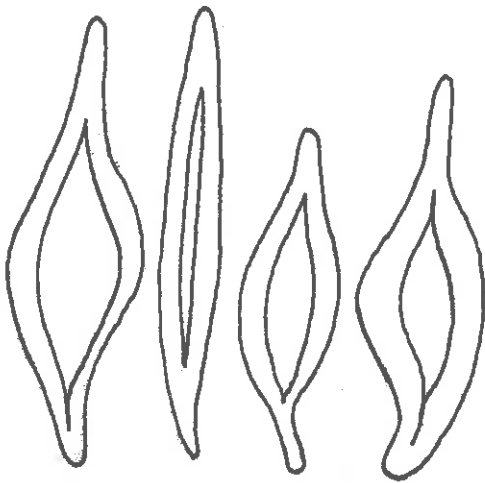
Habitat and Distribution. - On oak log, Tennessee, North Carolina, and Florida.

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Notes on Pleurotus stratosus Atk.

(Coll. No. 18250, not the Type from Atkinson Herb.)

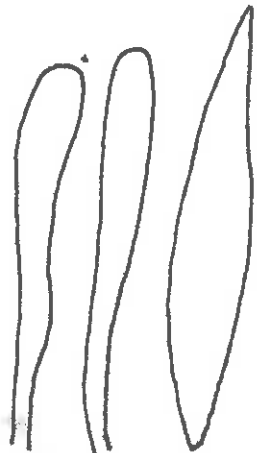
Spores 3.5-4.5 x 3-3.5 μ , ovoid to globose, smooth, yellowish-brown in Melzer's reagent. Pleurocystidia and cheilocystidia (metuloids) numerous, fusoid, of deep origin, thick-walled, 32-50 x 6-13 μ , apices at times crystallate. Gill-trama interwoven; subhymenium inconspicuous. Pileus flesh of four layers: (1) surface, bearing tomentum; (2) epicutis, brown, 20-30 μ thick; (3) colorless, gelatinous layer of more or less erect hyphae, 80-110 μ thick; (4) dense, thick layer, 150 μ or more.



Metuloids: from Pleurotus stratosus Atk., the Type, Cornell No. 18250



Metuloids: from U.T. No. 12155, Panus angustatus Berk.



Ch. types, No. 12155, P. angustatus Berk.

RESUPINATUS APPLICATUS (Fr.) S. F. Gray

Nat. Arr. Brit. Pl. 1:617. 1821

Resupinatus atropellitis (Pk.) Murr. N. A. Flora 9:243. 1915

Pleurotus applicatus Kummer. Der Führer in die Pilzk.,
p. 105. 1871

Pileus 3-8 mm. broad, spathulate to circular, cupulate, sessile, dorsally or laterally attached, dark-gray to blackish, villose to strigose behind or all over, the hairs long, whitish to brownish, marginal portion faintly pruinose or glabrous, margin even to striatulate. Flesh thin, membranous. Lamellae close to subdistant, narrow to medium broad, dark-gray, edges whitish. Stipe none.

Spores 4.5-6 x 4-6 μ , globose to subglobose, smooth, yellowish in Melzer's reagent. Pleurocystidia and cheilocystidia none. Gill-trama slightly interwoven to subparallel. Flesh composed of three layers: (1) an outer, dense, dark-brown layer, 30-60 μ thick, bearing hyphoid hairs which are at times in tufts; (2) a colorless, gelatinous zone, 250-500 μ thick, hyphae more or less perpendicular; (3) a dark layer, 50-85 μ thick.

Habitat and Distribution. - On bark of deciduous trees, Tennessee, North Carolina, South Carolina, Alabama, and Florida, October-January.

RESUPINATUS APPROXIMANS (Pk.) Murr.

N. A. Flora 9:241. 1915

Pleurotus approximans Pk. N. Y. State Mus. Bul. 150:37. 1911

(Coker: E. M. Sci. Soc. Jour. 60:73. 1944)

"Plants laterally attached by a thick gelatinous plug, convex, 4-10 (12) mm. wide, not at all sulcate or striatulate when young but the margin becoming delicately striatulate when mature, strongly incurved when young, later expanded and at times more or less resupinate; pale to dark smoky brown, then about straw color, translucent, very finely pubescent on stalk and lower half of cap with delicate, short, erect hairs, the marginal half with sparse white flaky scales or becoming quite glabrous, the margin white when young, later concolorous; cap continuous with the plug above, notched at base below, with the margin running down the sides of the plug but not joining to make a continuous margin until later growth in some cases. Flesh composed as follows: (1) a surface film scarcely different from the gelatinous layer below, threads a little more densely woven and bearing the minute agglutinated (when wet) tomentum and a few scattered clumps of crystals, quite transparent except for the crystals; (2) a gelatinous layer up to 600 μ thick in large plants, hyaline as glass; (3) an opaque white layer about 125-225 μ thick in center of cap, thinning gradually toward the margin and thickening

(more, next page)

rapidly toward the base where it divides into a watery, sub-translucent, much thicker part (below) and a continuation of the dense white layer above. Clamp connections are plentiful in the cap tissues.

"Gills nearly snow white when quite fresh; frosty-looking from the numerous cystidia, becoming creamy when older, rather thin, subdistant, radiating from the base of the plug, ventricose, up to $600\ \mu$ broad, rounded in front and tapering or rounded behind, mostly short, very few full length, not interveined, very handsome!

"Spores (of No. 13541) white, smooth, elliptic, $3.7-4.4 \times (5.5) 6.5-8\ \mu$. Hymenium about $55\ \mu$ thick. Basidia narrowly clavate, 4-spored, about $6\ \mu$ thick. Cystidia numerous on sides and edges of gills, $9.3-15 (18.5) \times 44-77\ \mu$, projecting about $15-30\ \mu$ when dry, very variable in size and thickness of wall but usually thick-walled, usually bent below and with a constricted tip which is delicately encrusted and often with larger crystals around the base of this tip, giving the appearance of a peaked hat on the cystidium."

Habitat and Distribution. - On dead branches of Robinia, Liriodendron, and Wisteria, North Carolina, December-January.

(more, next page)

Notes on Type

Spores 6-8 x 3.5-4.5 μ , ellipsoid, smooth, yellowish-brown in Melzer's reagent. Pleurocystidia (metuloids) 45-88 x 9-16 μ , apex crystallate; cheilocystidia of two types: (1) metuloids, 45-50 x 6-12 μ , apex crystallate, (2) cylindric to subventricose, 25-30 x 2.5-4 μ . Gill-trama interwoven. Flesh of three layers: (1) an outer, dense layer, 15-30 μ thick, bearing either hairs or tufts of tomentum; (2) clear, gelatinous zone, 650-700 μ thick; (3) a darker, opaque zone, 250-300 μ thick.

RESUPINATUS ~~ATROCAERULEUS~~ var. GRISEUS (Pk.) ^{Murr.} ~~comb. nov.~~

N.A. Flora 9:240. 1915.

Pleurotus atrocaeruleus var. griseus Pk. New York State Mus.

Ann. Rept. 44:147. 1892

Hohenbuehelia grisea (Pk.) Singer. *Gilboa* 22:255. 1951.

Pileus 8-10 (12) mm. broad, dimidiate to sub-conchate, texture gelatinous-tough, olive, bluish toward base, densely white-pubescent giving a gray appearance, margin incurved, faintly striate. Flesh thick-gelatinous. Lamellae radiating, white then cream, many short, occasionally forked, moderately close, medium broad, edges fimbriate. Stipe none, sessile, laterally attached.

Spores 7-9 ~~x~~ x 4-4.5 μ , ellipsoid, at times inequilateral, smooth, yellowish-brown in Melzer's. Pleurocystidia (metuloids) numerous, fusoid, obclavate, or ventricose-acuminate, apex granular-encrusted, thick-walled, base 12-17 μ , neck 3-6 μ , length 56-76 μ , apex encrusted; cheilocystidia similar, usually much smaller, 18-24 x 5-6 μ . Gill-trama interwoven. Pileus flesh of three layers: (1) an outer rather dense, brown layer about 30-50 μ thick, bearing tufts of colorless hairs 150-250 μ high; (2) colorless, gelatinous zone, 500-600 μ thick; (3) dark, brownish zone.

Habitat and Distribution. - On living tree trunks and logs, Tennessee and North Carolina, July and October.

Notes on Coker's No. 1631

Spores not found. Pleurocystidia (metuloids) 40-61 x 8-14 μ , fusoid-acuminate, deeply buried, projecting somewhat, thick-walled, not granular-encrusted; cheilocystidia similar, smaller,

(more, next page)

20-35 x 5-9 μ . Gill-trama interwoven. Pileus flesh of three layers: (1) an outer, brownish layer bearing agglutinated hairs; (2) colorless, gelatinous region of perpendicular hyphae; (3) dark brown zone.

Notes on Type

Spores 6-8 x 3-4 μ , ellipsoid, obliquely apiculate, smooth, yellowish-brown in Melzer's reagent. Pleurocystidia (metuloids) 55-70 x 9-14 μ , fusoid; cheilocystidia (1) metuloids, 28-40 x 9-13 μ , (2) cylindrical to ventricose, 20-25 x 4-6 μ . Gill-trama interwoven. Flesh of three layers: (1) an outer, dense layer, 20-30 μ thick; (2) a clear, gelatinous zone, 375-425 μ thick; (3) an inner dense zone, 350-400 μ thick.

See Singer: Filloa 22: 255, and 25: 469.

RESUPINATUS CAROLINUS (Coker) comb. nov.

Pleurotus carolinus Coker. Elisha Mitch. Sci. Soc. Jour.
60:85-86. 1944

"Ample gregarious on bark of living cedar; very small, 2-3.5 (4) mm. broad, centrally or subcentrally attached, cupulate, blackish brown when wet, light gray when dry, from the dense, white, very short, granular-looking tomentum, not at all striate either when wet or when dry, the base of larger plants obviously attached with delicate white filaments. Flesh about 300 μ thick near base, thinning to margin, about 240 μ half way to margin, composed of: (1) an outer membrane of brownish filaments which is about 15 μ thick, including large and small crystals and bearing the delicate hairs up to 270 μ long in center, fading to a mere pulverulence distally, ~~white~~ this layer being fundamentally a tough, translucent jelly but made more or less opaque by the crystals; (2) a hyaline gelatinous layer about 165 μ thick, its filaments running perpendicularly; (3) an opaque, dark, dense layer about 60 μ thick which runs down into the gills to form their trama.

"Gills broad, about 400 μ , rather close, very thin, many short, when wet color of cap, when dry clear brown with conspicuously white, granular margins.

"Spores (of No. 4016) subspherical, smooth, 3.7-4.1 x 4-4.5 μ . Hymenium about 15 μ thick. Cystidia lacking."

(more, next page)

Habitat and Distribution. - On bark of living cedar, North Carolina, January.

Notes on Type

Spores 4.7-6 x 3-4.5 μ , subglobose to short-ellipsoid, smooth, yellowish-brown in Melzer's reagent. Pleurocystidia and cheilocystidia none. Gill-trama subparallel, a very narrow band. Pileus flesh of three layers: (1) an outer, brownish, rather narrow stratum bearing a few hyphoid hairs; (2) a stratum of colorless, more or less perpendicular hyphae; (3) a dark region which extends into the lamellae.

RESUPINATUS CRUSTOSUS (Coker) comb. nov.

Pleurotus crustosus Coker. Elisha Mitch. Sci. Soc. Jour. 60:
74-75. 1944

"Cap 2-11 (usually 3-7) mm. broad, cup-shaped to conchate, excentrically sessile by a slightly elevated disk, strongly sulcate both when fresh and when dry, minutely granular-crusted all over, not hairy toward base, when wet blackish brown with a lighter smoky brown margin, when dry light grayish (nearly white) or brownish all over. Flesh blackish, tough, elastic, very thin (hardly 0.5 mm. thick), tasteless and odorless, composed of: (1) a very thin (about 30 μ thick), nearly black cuticle with black excrescences of minute, gnarled and swollen tubercles which have numerous grain-like, whitish crystals on their surfaces; (2) a translucent, pale russet brown in section, gelatinous layer about 300-350 μ thick with the hyphae not few and perpendicular but dense and interwoven; and (3) a lower black, thin, dense layer about 45-50 μ thick next the hymenium.

"Gills subdistant, up to 1.3 mm. wide, rounded at the point of attachment, undulate and veined, thickish, dark russet brown (color of cap), many short, the minutely granular margin paler.

"Spores (of No. 3896) white, smooth, oblong-elliptic, 3.7-4.2 x 7.4-9.5 μ , most about 8 μ long. Basidia short-

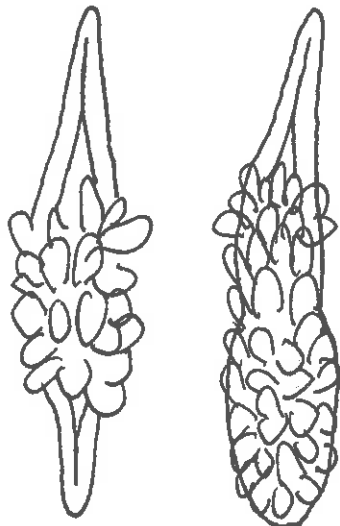
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pyriform, $5.5\ \mu$ thick, with 4 slender sterigmata. Cystidia present, fusiform, oblong or oval, or various sizes, $18-30 \times 52-68\ \mu$, counting the crystals (one found without crystals, $7.6 \times 40\ \mu$), widely scattered on both margins and sides, peculiar (as in P. niger) in being completely or almost completely embedded in the fresh condition (projecting about $14-18.5\ \mu$ when dry) and heavily encrusted on basal half or nearly all over with large crystals."

Habitat and Distribution. - On bark of cedar poles, North Carolina, December-January.

Notes on Type

Spores $7-9 \times 3.5-4\ \mu$, oblong-ellipsoid, smooth, yellowish-brown in Melzer's reagent. Pleurocystidia and cheilocystidia (metuloids) ventrose, ^{ie} base or central portion heavily knobbed (Coker calls them crystals), $48-76 \times 15-27\ \mu$. Basidia clavate, 4-spored, $21-30 \times 5-7\ \mu$. Gill-trama ^{partly} subparallel to more or less interwoven. Pileus flesh of three layers: (1) surface layer of brownish, dense elements bearing hairs (fibrils); (2) clear, gelatinous region; (3) dark, dense layer.



Pl. & ch. (metuloids)

RESUPINATUS ELEGANS (Coker) comb. nov.

Pleurotus elegans Coker. Elisha Mitch. Sci. Soc. Jour. 60:74.
1944

"Single or sparsely gregarious; cap convex, up to 4-5 mm. wide, often much smaller, laterally attached by a stalk-like plug about 1 mm. long and 0.5 mm. thick which is white on the lower side and black above but densely white-villose on both sides; cap not marginate behind, not striate or sulcate except on about 1/2 mm. of the margin, nearly black except for the conspicuous white villose pubescence extending from the base over the proximal third or half of the cap, fading to a puberulence toward the abruptly whitish margin. Flesh very thin, tough, black in bulk, consisting of: (1) a very thin blackish surface layer bearing the pubescence which collapses in age; (2) a clear, hyaline, gelatinous layer about 200-226 μ thick; and (3) an opaque lower layer which gradually thickens from the thin margin to the center and runs down into the gills to form their trama.

"Gills distant, thickish, broad, only a few (4 or 5) that are of full length, about milk white both when wet and when dry, more or less rounded at the inner ends which just reach the little plug; margins uneven and irregularly toothed.

"Spores (of No. 13530) subspherical to sub-pipshaped, smooth, 5-6.5 x 6.8-7.5 (8.5) μ . Hymenium about 22 μ thick;

(more, next page)

basidia 4-spored, about 6.8-8 μ thick. Cystidia small, 12-14 μ thick, extending about 15-20 μ , gradually tapering and more or less heavily encrusted, the embedded part not encrusted and with thicker walls than the other cells of the hymenium; cystidia present, so far as observed, only on or near the margin of the gills but not numerous and often not easily found (in one case even in good sections not found at all); associated here and there with other peculiar cells with apiculate tips ending in a globular swelling (Pl. 47, fig. 10)."

Habitat and Distribution. - On bark of living cedar, North Carolina, November-January.

Notes on Type

Spores 6.5-8 x 4.5-6 μ , subglobose, short-ellipsoid, or ovoid, smooth, white in mass, yellowish-brown in Melzer's reagent. Pleurocystidia (metuloids) near edges; cheilocystidia 25-35 x 5-10 (base) x 3-6 (neck) μ , ventricose, apex crystallate, thick-walled. Gill-trama undulating-parallel. Pileus flesh of three layers: (1) thin, dark-brown, outer layer bearing surface hyphoid hairs which are colorless, 35-90 x 2-3 μ ; (2) clear layer, 120-150 μ thick, of gelatinous, perpendicular zone; (3) dark brown region which extends into the lamellae.

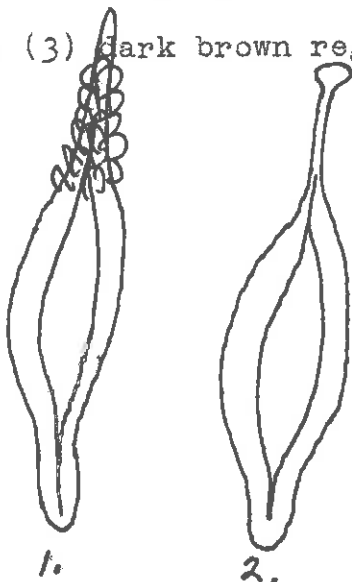


Fig. 1 - Pl. (metuloid) and one type of ch.

Fig. 2 - A second type of ch.

RESUPINATUS MASTRUCATUS (Fr.) comb. nov.

Agaricus (Pleurotus) mastrucatus Fr. Syst. Myc. 1:190. 1821

(Coker: E. M. Sci. Soc. Jour. 60:87. 1944)

"Plants horizontally shelving, often imbricated; cap up to 10.5 cm. broad, sessile by a small area, the lateral lobes also often clinging to the wood; surface dry, densely covered with a whitish or drab, rather frosty-looking mat of soft tomentum, about 1 mm. thick in center, thinning toward the margin and there allowing the mouse gray color of the upper flesh to be visible; this tomentum at times more or less drawn together into scurfy points, particularly near the margin, collapsing and wearing away by degrees, leaving a mangy appearance; margin more or less irregular and lobed and involute at all ages; when young and moist the entire cap dark smoky drab (about hair drab of Ridg.) or darker, due to the thinness of the tomentum at this stage, allowing the dark flesh to show through it. Flesh sharply divided into an upper layer of deep drab or nearly black, firmly gelatinous, translucent substance about 0.5-1 mm. thick over the whole cap, and a lower whitish non-gelatinous layer, thinner than the upper near the margin and thicker, about 2.5 mm., near the base; taste distinctly farinaceous, odor none. On drying the upper layer shrinks down to a thin but still distinctly visible dark membrane.

"Gills crowded, radiating from near the point of attachment, narrow at both ends, about 3-4 mm. wide in center; color a pallid white or faint creamy drab when young, changing to a

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rather light brownish-yellow at maturity, unchanged in drying. There is no distinct stem, but the gills do not extend quite to the substratum, there being a smooth area intervening that is densely tomentose or at times merely chalky-looking. The gills terminate rather abruptly or fade away into narrow lines.

"Spores (of No. 617) short-elliptic, smooth, 5.6-7 x 6.5-8.5 (9) μ . Cystidia pointed, 66-90 μ long, more or less encrusted."

Habitat and Distribution. - On deciduous tree trunks and logs, North Carolina, October.

Notes on Coker's No. 2842

Spores 7-8 x 5-6 μ , broadly ellipsoid, smooth, yellowish-brown in Melzer's reagent. Pleurocystidia (metuloids) fusoid-acuminate, 56-80 x 11-15 μ , apex more or less encrusted; cheilocystidia of three types: (1) similar to pleurocystidia; (2) clavate, 18-22 x 4-5 μ ; (3) filamentous, more or less subcapitate, 30-55 x 1.5-2 μ . Gill-trama undulating-subparallel. Fileus flesh of two layers: (1) an upper, dark, gelatinous layer; (2) a lower, pale, non-gelatinous zone.

RESUPINATUS NIGER (Schw.) Murr.

N. A. Flora 9:242. 1915

(Elisha Mitch. Sci. Soc. Jour. 60:75. 1944)

"Cap 4-5 mm. broad, nearly circular, applanate, convex, laterally and broadly attached, not resupinate, black, nearly glabrous (minutely granular in the grown specimens), very faintly striatulate on margin when revived, no noticeable fibers at base, young plant minutely tomentose with gray, tufted fibers. Flesh largely a dark jelly, moderately thick, covered with a translucent membrane with blackish granules.

"Gills blackish brown when revived, thick with blunt edges, rather close, wavy, moderately broad (hardly a mm.) and more or less rounded behind; many short.

"Spores ovate-elliptic, smooth, (3.8) 4-4.5 (5) x 7.4-9.5 μ . Hymenium about 37 μ thick. Cystidia present, fusiform, 10.5-16 x 24-63 (75) μ , the central part of the cell almost obscured by a mass of large pale crystals that surround it. When soaked overnight the crystals fall away in large part and expose the peculiar cystidium cell which is thick-walled, deep red-brown in lower half, hyaline in upper part which projects above the hymenium about 15 μ or less. The cystidia occur not only throughout the hymenium but small irregular ones occur also on the surface of the cap at or near the margin. These cystidia do not seem to project at all but are prostrate and somewhat embedded."

Habitat and Distribution. - On dead bark and wood,
North Carolina.

(more, next page)

Discussion. - Murrill lists this species for Florida, Bul. 478, but it should be checked. It may be silvanus or some other species.

Plewotus petaloides-stipulatus
etc

See Smith's letter March-Apr 1958

RESUPINATUS PETALOIDES (Fr.) comb. nov.

Pleurotus petaloides (Fr.) Qué1. Champ. Jura Vosg., p. 226. 1872
Pleurotus spathulatus (Fr.) Pk. N. Y. State Mus. Ann. Rept.
39:63. 1886

Pileus 1-2.5 cm. broad, fan-shaped to cuneate, tapering to a stem-like base, whitish to dingy gray-brown, pruinose at least behind when young, glabrescent, with a gelatinous feel when thoroughly wetted, margin striatulate. Flesh thin, pliant, white, odor and taste ~~mild to~~ farinaceous. Lamellae decurrent, rarely forked, close, narrow, white, edges crenulate. Stipe absent, pileus laterally elongated to form a false stipe, 3-5 mm. long.

Spores (5) 6-9 x 3.5-5 μ , ellipsoid, smooth, white in mass, yellowish in Melzer's. Pleurocystidia (met^ualoids) abundant, fusoid, of deep origin, apex at times crystallate, 42-105 x 7-16 μ ; cheilocystidia usually of two types: (1) metuloids, similar to pleurocystidia, usually shorter; (2) ventricose, 18-25 x 4-5 (8) μ , ~~slightly in xxxxxxxx~~
Gill-trama slightly interwoven. Flesh of pileus composed of three layers: (1) surface brownish layer, 20-30 μ thick, bearing rather short erect filaments (pruinosity); (2) gelatinous, ~~xxxx~~ clear zone, 175-250 μ thick; (3) dark-brown layer, 125-160 μ thick.

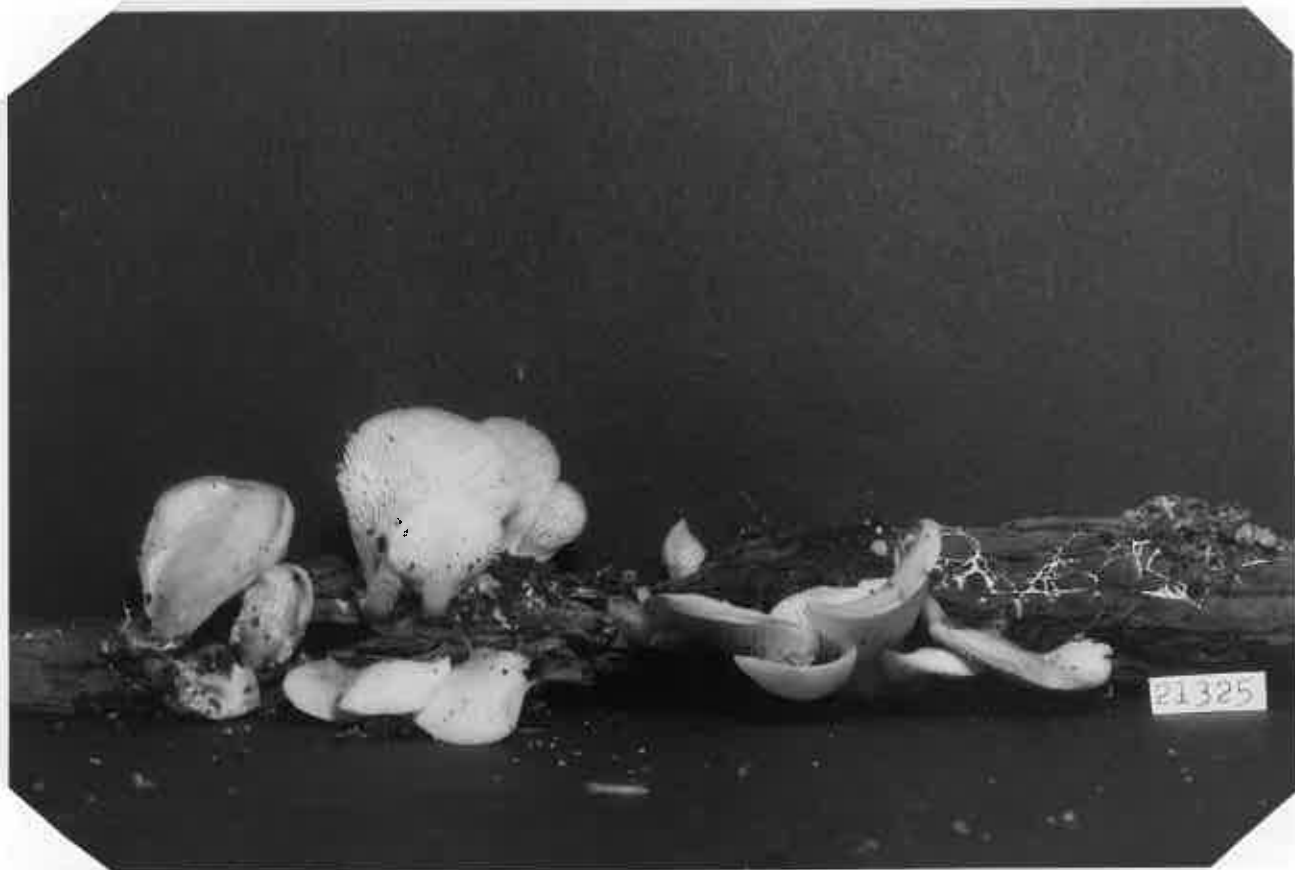
Habitat and Distribution. - On deciduous, decaying log, Tennessee, May.

Pl. & ch.





21325 - *Leucostictus* ^{*resupinatus*} *petaloides* (Fr.) Quét.



21325 - *Pleurotus petaloides* ~~Quél.~~
Resupinatus (Fr.)

RESUPINATUS RHACODIUM (B. & C.) Singer

(See Agar. p. 253. 1949)

(Coker: E. M. Sci. Soc. Jour. 60:80. 1944)

"Gregarious in small or moderate numbers but never crowded, 3-5.5 mm. wide, centrally to laterally attached, cupulate or conchate, surface on basal half or two thirds covered with a thick strigose to spongy dark brown or black disk of sharply defined limits, the marginal part minutely granular, faintly glaucous, drab brown with a faint flesh tint (about hair brown, Ridg.) and faintly striatulate both when wet and when dry; hairs of the disk about 90-300 μ long, usually more or less agglutinated or so matted as to form a sponge; margin even, thick. Flesh made up as follows: (1) a black crust under the disk hairs (wherever it can be distinguished from the agglutinated bases of the dense hairs) about 14-30 μ thick, not continuous beyond the disk but consisting of discrete irregular particles of amorphous material; (2) gelatinous layer brown, hyaline, about 370 μ thick near center, rapidly thinning to margin, about 135 μ thick half way to margin; (3) black-brown layer above gills about 75 μ thick, descending into the gills except for a very narrow, somewhat paler layer (like the jelly layer but darker) which runs down the center of the gills, where in thin section it can be seen to be about 30 μ thick, the blackish flesh together with the hymenial surface layer making up about the same thickness. Hymenium so dark as not to be distinguishable from the black flesh except in a very thin section.

(more, next page)

"Gills color of cap, about 4/5 mm. wide, rather thin, subdistant, of three or four lengths, all truncate at inner end, the long ones, about 9-10, ending abruptly in center around a glabrous disk, margin finely granular but not whitish either when wet or when dry, width of gill nearly same throughout except for marginal end.

"Spores (of No. 8950a) white, spherical 4.2-5.4 (5.8) μ . Hymenium about 15 μ thick, nearly black except in thin section. No cystidia."

Habitat and Distribution. - On grape and Kalmia, Alabama and North Carolina, October and January.

Notes on Coker's No. 8950a

Spores ^{4-5 μ} ~~3.5-4.5 μ~~ , globose, smooth, yellowish in Melzer's. Pleurocystidia and cheilocystidia none. Flesh of 3 layers (see Coker's description, above).

RESUPINATUS SEROTINUS (Fr.) comb. nov.

Pleurotus serotinus (Fr.) Kummer. Der Führer in die Pilzkunde,
p. 104. 1871

Crepidopus serotinus (Schrad.) Murr. Mycologia 4:216. 1912

Pileus 3-9 cm. broad, convex, expanding-convex, laterally attached, semi-orbicular, cuneate, dimidiate, "deep greenish olive," paler near base ("Krönberg's green"), yellowish when covered by debris, tomentose, viscid when wet, margin even, incurved. Flesh white, thick, firm; odor and taste mild. Lamellae decurrent, close, narrow, occasionally forked, "cartridge buff" to "chamois," edges at times greenish, even or fimbriate. Stipe 1-4 cm. x 10-20 mm., lateral, greenish to pale tawny, tomentose, dry, solid.

Spores 4-5 x 1-2 μ , oblong-curved, smooth, pale yellowish in Melzer's. Pleurocystidia (metuloids) fusiform, 55-76 x 12-17 μ ; cheilocystidia (1) metuloids, shorter than pleurocystidia; (2) ventricose, 16-20 x 5-7 μ . Gill-trama slightly interwoven, ~~to subparallel~~. Flesh of three zones: (1) surface, dense, brownish, 40-50 μ thick, and bearing woolly tufts (tomentum); (2) clear gelatinous layer, 1000-1200 μ thick, hyphae interwoven; (3) dark zone, 1400-1600 μ thick.

Habitat and Distribution. - Cespitose or singly on deciduous stumps and logs, Tennessee and North Carolina, October-January.

(more, next page)

Notes by Ruby Rice (on No. 5255)

"TRAMA subparallel; elements compact, septate at short intervals, 3-7 μ in diameter, smaller (2 μ) toward the hymenium; clamp connections frequent and conspicuous. The trama of Pleurotus serotinus is in all essentials similar to that of P. sapidus. SUBHYMENIUM shallow but distinct, type scarcely apparent but probably like that of P. sapidus. Basidia slender (2.2 μ in dried material). The cystidia are as described by Kauffman (1918:668).

"The pileus flesh is similar to that of P. sapidus in certain respects. The principal difference is to be found in the rather thick gelatinous upper layer, which is easily distinguishable in radial section under the microscope. Using the terminology of Fayod (1889:243), the cuticle consists of: (1) epicutis (outer layer) of compact, somewhat gelatinous, brownish, radially arranged hyphae, some of which project outward from the surface; vascular hyphae are present, most abundantly at the extreme outer surface; (2) hypoderm (inner layer), composed of markedly gelatinous hyphae; vascular hyphae are rather frequent, oriented radially as are the hyaline gelatinous elements. Below the cuticle and merging into it is the fleshy portion of the pileus; it is more compact near its upper and lower limits, and spongy between; it is composed of hyphae which are similar to, but somewhat larger than, those of the gill trama. Connective hyphae were sought but not observed. Clamp connections are frequent and rather conspicuous."



8451 - *Pleurotus serotinus* (Fr.)
Resupinatus



8451 - ~~Resupinatus~~ serotinus (Fr.)
Resupinatus

RESUPINATUS SILVANUS (Sacc.) Singer

Filea 23:178. 1950
(See ~~Agar.~~, p. 253. 1949)

Pleurotus silvanus Sacc. *Michelia* 1:1. 1877

Pileus 3-7 mm. broad, applanate-conchate, dorsally attached, smoky, black when dry, whitish puberulent, glabrescent, more or less rugose-wrinkled, margin striatulate. Flesh thin, black; odor and taste none. Lamellae rounded behind, radiating, blackish, subdistant, rather broad, edges often paler.

Spores 5-6 (7) x 2.5-3 μ , ellipsoid, smooth, pale reagent. yellowish in Melzer's/ Pleurocystidia and cheilocystidia none. Gill-trama subparallel? Flesh of three layers: (1) an outer, dark-brown layer, 20-35 μ thick; (2) a colorless, gelatinous zone, 500-700 μ thick; (3) a dark-brown layer, near the gills, which extends into the gills to form the subhymenium.

Habitat and Distribution. - On twigs and limbs of deciduous trees, Tennessee, North Carolina, Alabama, Mississippi, and Florida (?), January-April.

Discussion. - Merrill lists R. niger from Florida, but this may be R. silvanus.

RESUPINATUS SPATHULATUS (Fr.) comb. nov.

Pleurotus spathulatus (Fr.) Pk. N. Y. State Mus. Ann.
Rept. 39:63. 1886

Pileus 2-9 cm. broad, spathulate, "buckthorn brown" or much paler (not matched), glabrous, margin even, involute. Flesh thin, white; odor and taste farinaceous. Lamellae decurrent, white, then cream colored, narrow (1-3 mm. broad, crowded, many forked, often anastomosed, edges fimbriate. Stipe 1-3 cm. x 5-10 mm., dingy olive, pruinose to tomentose, cylindrical or compressed.

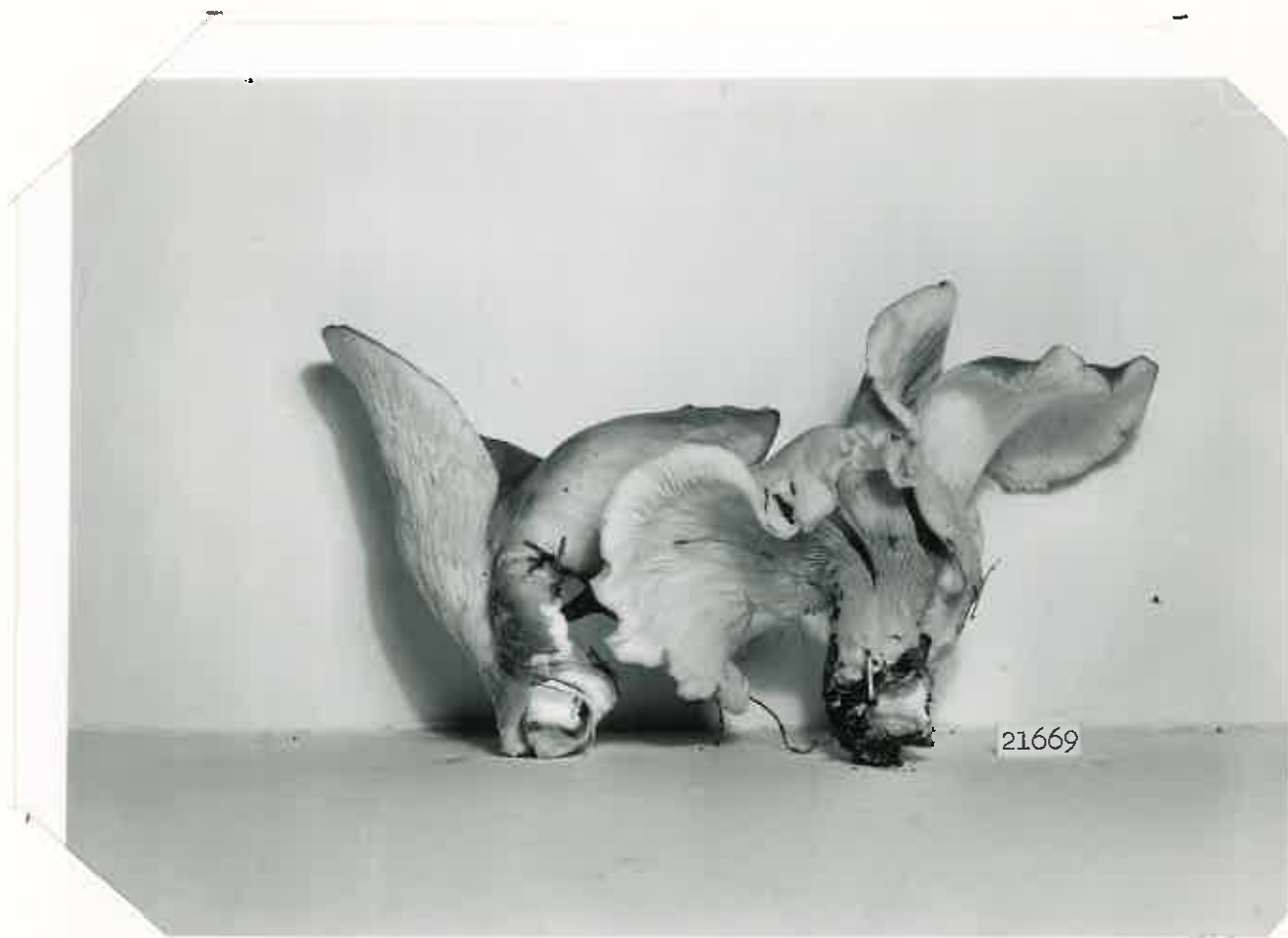
Spores (5.5) 6-8 (9) x 3-4.5 μ , ellipsoid, smooth, white in mass, yellowish in Melzer's reagent. Pleurocystidia. (metuloids) fusoid, at times crystallate, 50-105 x 10-20 μ ; cheilocystidia of three types: (a) metuloids similar to pleurocystidia; (b) clavate; (c) ventricose, 17-25 (35) x 4-6 (9) μ . Flesh layers: (1) an outer, brownish, 20-25 μ thick; (2) clear, with more or less erect hyphae, gelatinous, 125-200 μ thick; (3) dense, brown layer.

Habitat and Distribution. - On soil, on lawns, in deciduous and conifer woods, at times on stumps and decaying wood, Tennessee and North Carolina, May-November.

Discussion. - Although this may be the same as R. petaloides, this binomial is being retained until studies are more complete.



21384 - *Pleurotus spatulatus* (Fr.) ~~PK~~
Resupinatus



21669 - ^{Rexipinnatus} ~~Flavus~~ spatulatus (Fr.)



20817 - *Resupinatus*
~~*Psathyra*~~ *spathulatus* (Fr.)

RESUPINATUS STRIATULUS (Fr.) Murr.

N. A. Flora 9:242. 1915

Pleurotus striatulus (Fr.) Kummer. Der Führer in die Pilzkunde,
p. 105. 1871

Pileus 1-2.5 mm. broad, at first grayish, finally brownish, "warm sepia," cupulate-pendulous, expanding convex, basal half white-pubescent, marginal half glabrous, sulcate-striate to disk or part-way. Flesh thin, soft, waxy. Lamellae radiating around a central or eccentric point, of several ranks, 3-5 long ones, 12-17 short, grayish at first, finally brownish to nearly black, white-pruinose, ^{distant,} rather broad, rather thick, edges concolor, even. Stipe none; attached at disk or laterally by white fibrils.

Spores 5-6.5 x 4.5-5 μ , subglobose, or globose, smooth, white in mass, yellowish in Melzer's reagent. Pleurocystidia and cheilocystidia none. Gill-trama subparallel to slightly interwoven. Flesh of three layers: (1) dark brown, outer layer, 12-30 μ thick; (2) colorless, gelatinous zone, 200-350 μ thick; (3) dark-brown layer, 15-25 μ thick.

Habitat and Distribution. - On decorticated conifer log, Tennessee, North Carolina, South Carolina, and Alabama, December-August.

21387



21387 ~~Helveticus~~ striatulus (Fr.) ~~Gillet~~
Resupinatus Murr.



21087 - ^{*Pezizomatus*}
~~*Pezizomatus*~~ *striatulus* (Fr.) Muor.



21087 - ^{Resupinatus} ~~Pleuronotus~~ striatulus (Fr.) Mowbr.



21087 - *Plewrotus striatulus* (Fr.) Murr.
Resupinatus



Resupinatus
21087 - ~~*Levatus*~~ *striatulus* (Z.) Murr.

RESUPINATUS SUBALLIACEUS (Murrill) comb. nov.

Geopetalum suballiaceum Murr. Mycologia 35:425. 1943

Pleurotus suballiaceus Murr. Mycologia 35:433. 1943

"Pileus dimidiate or flabelliform, attached by a narrow base, gregarious, 2-2.5 cm. broad; surface smooth, slightly pruinose behind, whitish, opaque, becoming slightly yellowish on drying and striate over the lamellae, margin often lobed; context membranous, white, odorless; lamellae distant, inserted, white, entire, yellowish with a brownish tint when dry; spores ellipsoid or ovoid, smooth, hyaline, about $6-7 \times 4 \mu$; cystidia oblong-fusoid with short stalk and acute or blunt tip, hyaline, about $60-75 \times 15 \mu$."

Habitat and Distribution. - On hardwood log, Florida, July.

Notes on U.T. No. 21219 (Part of Type)

Spores $6-8 \times 3-4 \mu$, ellipsoid, smooth, yellowish-brown in Melzer's reagent. Pleurocystidia (metuloids) $50-90 \times 10-20 \mu$, fusoid, at times the apex more or less crystallate; cheilocystidia clavate to ventricose, $20-32 \times 4-10 \mu$. Gill-trama slightly interwoven. Flesh of three layers (not always easily demonstrated): (1) an outer, dense, brownish layer, $15-20 \mu$ thick, bearing more or less erect hyphae (pruinosity); (2) a colorless, gelatinous zone, $50-100 \mu$ thick; (3) an inner, dense, brownish layer.

RESUPINATUS UNGUICULARIS (Fr.) Singer

(See: Agar., p. 253. 1949)

Pleurotus unguicularis Fr. *Clav. Fung.* 1:24. 1828

(Coker: E. M. Sci. Soc. Jour. 60:78. 1944)

"Cap nearly circular, up to 6(7) mm. wide, attached by an excentric stalklike, solid, terete, equal tubercle up to 1 mm. thick and 2 mm. long, which is attached to the substratum by a narrow, appressed fringe of pure white fibers and expands rather abruptly into the pendent broadly cone-shaped cap. Cap when wet blackish brown, thinly white-frosted, becoming nearly glabrous, very thin, lightly sulcate when wet, more distinctly so nearly all over when dry, not concentrically wrinkled around the base. Flesh nearly all gelatinous, consisting of: (1) a black pellicle about 10-20 μ thick, 'made up of irregular dark brown perpendicular cells encrusted with black amorphous, very fine particles; (2) a hyaline (dark smoky in bulk) gelatinous layer up to 380 μ thick near center, thinning to margin, in a medium sized cap (6 mm.) about 110 μ half way to the margin, this layer gradually darkening into (3) the thin, scarcely different, also gelatinous, brownish zone above the gills, which descends into the gills to form the trama and subhymenium which is very thin and only a little denser and darker than the trama. 'Stalk' of essentially the same structure as the cap but much tougher; in a plant 5 mm. wide, stalk about 820 μ thick with rough black pellicle up to 40-50 μ thick including the asperities, the bulk of the trama pale smoky translucent in thin section with a somewhat darker, denser central column that forms the subhymenial layer when the stalk expands into the cap.

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"Gills distant, moderately thick, color of cap except for black margin, longer ones broadly rounded (subtruncate) around the focal point, many short, margins smooth, more or less wavy but not interveined.

"Spores (of No. 4160) subelliptic, $2.5-3.6 \times 6-8.5 \mu$. Hymenium about 30μ thick. No cystidia."

Habitat and Distribution. - On bark of fallen pine and deciduous twigs, Tennessee and North Carolina, January-March.

Notes on Coker's No. 4160

Spores $6-9 \times 2.8-3.7 \mu$, oblong-ellipsoid, smooth, yellowish in Melzer's reagent. Pleurocystidia and cheilocystidia none. Gill-trama interwoven. Pileus flesh of three layers: (1) an outer brown zone, $20-60 \mu$ broad, of appressed hyphae bearing scattered hyphoid fibrils (no perpendicular cells as reported by Coker); (a) a colorless, gelatinous region, $170-200 \mu$ broad; (3) a narrow, brown, more or less gelatinous zone.

Resupinatus

PLEUROTUS No. 23129

Pileus 1-2.5 cm. broad, flabelliform, pale grayish (not matched), heavy-glutinous, margin incurved, faintly striate. Flesh thin, white, tough, overlaid with a thick gelatinous layer; odor and taste mild. Lamellae radiating from basal point, white, many short (short ones of 4-5 ranks), close, medium broad, edges fimbriate. Stipe none; laterally attached by a slight tubercle.

Spores 6-7.5 x 4.5-6 μ , ellipsoid, smooth, yellowish in Melzer's reagent, pale yellow in mass. Pleurocystidia 63-75 x 9-11 μ , ventricose, metuloid-type, crested; cheilocystidia 38-43 x 8-10 μ , similar.

Habitat and Distribution. - On dead Tulip branches,
Cashiers, ^{N.C.} July.